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ABSTRACT

Five years ago, the National Library of Medicine (NLM) funded an Association of American Medical Colleges (AAMC) study of the impact of new information and communications technologies on the roles of health sciences libraries in a radically changing health care and educational environment. A key recommendation of the resulting report called for the development of an academic information resources management network with linkages to operational information systems in the academic health sciences center and medical practice loci to facilitate the flow and use of the world's knowledge base in carrying out the functions of education, patient care, and management. GaIN (Georgia Interactive Network for Medical Information) responds to that challenge and speaks directly to many of the final recommendations issued in the report: GaIN is built upon an automated academic health sciences library; it is a gateway to external databases; and it uses database management concepts to organize, package, and deliver information to a multi-level network of users. This document describes the organization and funding of GaIN; key principles incorporated into the network; roles of GaIN members; management and administration of the network; GaIN services; and an evaluation of the program to be conducted in 1986. (THC)

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"GaIN: The Georgia Interactive Network for Medical Information"

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"PERMISSION TO REPRODUCE THIS MATERIAL HAS BEEN GRANTED BY
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Five years ago, the National Library of Medicine (NLM) funded an Association of American Medical Colleges (AAMC) study of the impact of new information and communications technologies on the roles of health sciences libraries in a radically changing health care and education environment. The resulting report, Academic Information in the Health Sciences Center: Roles for the Library in Information Management by Nina Matheson and John Cooper, called for immediate action on the part of health organizations, professional societies and associations, foundations, industry an the federal government to assist health sciences centers in adopting state-of-the-art technologies to manage the knowledge base of medicine. Academic health sciences institutions are experiencing serious problems in managing the flow of the rapidly-increasing biomedical information knowledge base. The academic community lags behind the corporate sector in the problem of organizational information resource management. A key recommendation of the Matheson report called for ... the development of an academic information resources management network with linkages to operational information systems in the academic health sciences center and medical practice loci to facilitate the flow and use of the world's knowledge base in carrying out the functions of education, research, patient care, and management.[1]

GaIN responds to this challenge and speaks directly to many of the final recommendations issued in the Matheson report: GaIN is built upon an automated academic health sciences library, a library which is a gateway to external databases, a library which uses "database management concepts to organize package and deliver information" to a multi-level network of users.[2]

Additionally, GaIN responds to the mission of Mercer University School of Medicine which is to encourage its graduates to enter the practice of primary care medicine in the rural, medically-underserved areas of Georgia.

GaIN (Georgia Interactive Network for Medical Information) is a grant-funded health information network centered at the MUSM Library. It's funded by the National Library of Medicine for a three year period which began in September of 1983 and ends in August 1986. It is a new concept in computer-based health information networks that provides a coordinated learning resource and education support system for rural Georgia. The goals of the GaIN project are (1) to demonstrate that information transfer can occur in an efficient manner in rural sites, (2) to develop a model educational support network that incorporates physicians into a health information system, thereby helping to retain them in their rural practices, and (3) to instill in MUSM students as fundamental behavior effective information seeking and information acquiring skills, and to encourage the development of these behaviors in rural practice settings touched by GaIN.

The GaIN network is organized as a multi-level structure and managed centrally at the MUSM Library which is the tertiary site. GaIN extends to two different levels of information use: the primary sites, which are physicians' offices and the secondary sites, which are the hospital libraries.

Two key principles are incorporated in the GaIN network. The first of these is the "gateway" concept. The gateway links primary and secondary sites to databases beyond the network.

The second key principle is that of distributed processing. Functions occur logically at primary and/or secondary sites rather than centrally at the tertiary site (MUSM). This approach relates both to technology and manpower usage. The objective in the technological arena being the reduction of communications costs. By using manpower to implement GaIN in the secondary sites as well as in the tertiary site, the burden on the host institution has been reduced; but more importantly, the network has a degree of self-sufficiency.

The primary sites draw most of their services from secondary sites. Initially the health science libraries serving as secondary sites were members of the Consortium of Health Science Libraries of Central Georgia; now there are secondary sites throughout the state. They sponsor several practice sites and provide services to them.

An exception to this structure is made for remote education sites used in the MUSM curriculum. These practice sites feed directly into the MUSM Library.

Each network member has roles, depending upon its level in the network, that it assumes upon joining GaIN. The tertiary site is responsible for

1. Directing the planning process for the network, with advice from the Advisory Board
2. Coordinating the implementation of the project
3. Developing and maintaining system software and hardware at the tertiary site
4. Providing training for network users
5. Entering data for GaIN files
6. Serving as backup for secondary sites
7. Providing services to remote GaIN sites
8. Serving as "gateway" for GaIN members.

The secondary nodes are responsible for

1. linking primary sites to MUSM
2. Providing information and document delivery services as needed to the network
3. Participating in GaIN training
4. Participating in the Advisory Board
5. Participating in evaluation studies.

The primary sites are responsible for

1. Participating in GaIN training
2. Participating in the Advisory Board
3. Participating in evaluation studies.

The management and administration of the network is performed at the MUSM Library by the library staff. Technical support is provided through two computer consultants and our computer operations manager.

The GaIN Advisory Board is composed of GaIN management, representatives form GaIN sites, and others who contribute to the network. The functions of the Advisory Board are

1. to monitor implementation and operation of GaIN services
2. to serve as a communication vehicle among different groups of network users
3. to participate in the evaluation of GaIN
4. to recommend new services
5. to assist as participants in publicizing GaIN
6. to advise upon appropriate distribution of costs both before and after grant funding.

GaIN provides the following services:

1. On-Line Catalog.

   This portion of the database contains reference to books, journals, and other materials available within the GaIN membership. It is a union catalog - a computerized "card catalog" of all GaIN resources - that uses OCLC (On-Line Computer Library Center) archive tapes along with Washington University School of Medicine's BACS (Bibliographic Access and Control System) integrated library system software.

2. Consultative Services.

Names of health specialists in the area who are willing and qualified to consult on medical problems are contained in this file. GaIN participants can search this file by subject area, name, textword, or zip code.

3. Continuing Education File.

This alerts GaIN participants to health-related educational opportunities in the Southeast. The file can be searched by subject, sponsoring organization, text-word, or zip code. GaIN also distributes a newsletter with this information to Georgia health care professionals.

4. Information for Patient Management (IMP).

IMP allows a network user to describe a patient problem and request an information package about the problem. A GaIN library then mails the needed information to the requestor.

5. Bibliographic Databases.

This service gives members access to information located in sources distant from the Georgia network. GaIN health professionals may request searches of these databases on a subject (Medicine and BRS are examples), and the search will be conducted from the local network. The results will be edited and transmitted to the requestor's own terminal via electronic mail.

6. Electronic Messaging.

The GaIN system is building a network of health professionals who are able to "talk" to each other or with member libraries through electronic mail using their microcomputers.

7. Other GaIN Services.

These include training and technical support, centralized cataloging, assistance with selection of software packages for practice management, and others.

GaIN uses two key concepts:

* Within the network, distributed processing and shared costs are important to divide responsibilities, technological functions, and expenses among network members.

* For using services beyond the network, the gateway links members to databases and networks outside of GaIN.

Hospital library members have access to the same files as the primary sites and their library holding are a part of the GaIN online catalog via the centralized cataloging service provided at the tertiary site. The hospital libraries also provide ILL and search services for the physicians they sponsor.

Central to the GaIN project was the implementation of an integrated library system at the MUSM Library. The ability of the GaIN network to function in a technological mode and to achieve its goals was largely dependent upon the installation of an integrated library system at MUSM and the electronic capabilities our system has introduced. Without the ILS, there would be no GaIN online catalog, no GaIN information files and no electronic messaging system.

Everyone is aware of the time and effort involved in planning for an integrated library system. We, at Mercer, found it to be a very complex process. The key to selection, installation and implementation of an ILS is PLANNING. You will not be able to do enough planning in the process, but the

more planning that's involved the better your product. We found the following to be very helpful:

1. A thorough planning document to include the following:

   A definition of every subsystem you want and features wanted in the subsystem (you might want to prioritize)

2. Extensive staff interviewing

   - interview as many as possible because no one person can think of everything

3. Put one person in charge to oversee this process - everything will go more smoothly

After you have as complete a document as possible, you can select, purchase, and implement a system. That sounds easy. It's not. All three of those are as or more complex than defining what you want the system to do.

The best preparation for going through the process of selecting, purchasing, and implementing an ILS is to realize it's going to be time-consuming and very frustrating at times.

GaIN is now in its third year of funding. We have been fully operational as a network since January of 1985. We have fourteen institutional members and about 90 individual members in the GaIN network. This third year is a very important one for GaIN, as we will be starting the evaluation of the program.

Evaluation will include administering various questionnaires (and follow-ups), monitoring system-generated statistics (including usage statistics), developing a cost-benefit analysis of the system, analyzing MUSM student questionnaires to determine the impact of GaIN on information-seeking behavior and surveying network participants regarding GaIN services.

What is the future of GaIN?

The Medical Association of Georgia has expressed interest in using GaIN as a communication vehicle for the Association.

The MUSM Family Practice Department is using GaIN as a communications service for its rural preceptor sites.

We are doing a research proposal for studying information needs of rural doctors and using the findings to add services to the system.

We are adding new services: BRS colleague, mini-Medline, and a more sophisticated messaging and conferencing system.

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